

ALASKA RETIREMENT MANAGEMENT BOARD

MAY 4, 2022

BOARD OF TRUSTEES MEETING

Board of Trustees Meeting

Wednesday, May 4, 2022

Call In (Audio Only): 1-907-202-7104

Code: 510 779 756#

- I. **9:30 AM** **Call to Order**
- II. **Roll Call**
- III. **Public Meeting Notice**
- IV. **Approval of Agenda**
- V. **Public/Member Participation, Communications, and Appearances**
(Three Minute Limit)
- VI. **9:35 AM** **Executive Session**
- VII. **9:55 AM** **Review Actuary RFP Recommendation**
Proposal Evaluation Committee

Action: Issuance - Notice of Intent to Award
- VIII. **10:00 AM** **Experience Analysis Recap**
Kevin Worley, Chief Financial Officer, Division of Retirement & Benefits
David Kershner & Scott Young, Buck

10:00 – 10:05 **A. Impact of Adverse Asset Returns on Projected Healthcare Funded Ratios**

10:05 – 10:35 **B. Economic Assumption Alternatives and Cost Effects**

10:35 - 11:05 **C. Open Discussion of Economic and Demographic Assumptions**
- [BREAK @ 11:05 \(10 minutes\)](#)
- IX. **11:15 AM** **Staff Updates**
 - A. CIO Report**
Zachary Hanna, Chief Investment Officer

 - B. Legal Report**
Ben Hofmeister, ARMB Legal Counsel

 - C. Retirement & Benefits Division Report**
Ajay Desai, Director, Division of Retirement & Benefits
- X. **11:45 AM** **Unfinished Business**

- XI. **New Business**
- XII. **Other Matters to Properly Come Before the Board**
- XIII. **Public/Member Comments**
- XIV. **Investment Advisory Council Comments**
- XV. **Trustee Comments**
- XVI. **Future Agenda Items**
- XVII. **11:50 AM Adjournment**

NOTE: Times are approximate, every attempt will be made to stay on schedule; however, adjustments may be made.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Review Actuary Procurement
RFP 2022-0400-0015

ACTION: X

DATE: May 4, 2022

INFORMATION:

BACKGROUND:

Alaska Statute 37.10.220(a)(9) provides that the Alaska Retirement Management Board (Board) shall review actuarial assumptions prepared and certified by a member of the American Academy of Actuaries and conduct experience analyses of the retirement systems not less than once every four years, except for health cost assumptions, which shall be reviewed annually; the results of all actuarial assumptions prepared shall be reviewed and certified by a second member of the American Academy of Actuaries before presentation to the board. The current review actuary is Gabriel Roeder Smith LLC, and the contract, including all available extensions ends June 30, 2022.

At the March 17, 2022 meeting, Staff advised the Board that a Request for Proposals (RFP) outlining the required services had been prepared. RFP 2022-0400-0015, issued on February 23, 2022, listed ARMB Liaison Officer Alysia Jones as the project director, with a contract term of three years with two optional two-year extensions. Chair Williams appointed Trustees Bretz, Ryan and himself to the Proposal Evaluation Committee (PEC).

STATUS:

Four responsive proposals were received by the stated deadline and evaluated and scored by the PEC members. The PEC met on May 2, 2022 to discuss the proposals and make the selection for recommendation to the Board. Director Pamela Leary, Procurement Officer Dorie Choquette, and Board Liaison/ Project Director Alysia Jones were also present. Based on the scoring and evaluation of each firm's:

- Understanding of Scope of Services and Methodology,
- Overall Organization, Experience, and Qualifications,
- Professional Experience and Qualifications of Personnel, and
- Cost Proposal,

the Committee determined that _____ should be awarded the contract in accordance with the terms set forth in RFP 2022-0400-0015.

RECOMMENDATION:

The Alaska Retirement Management Board directs staff to issue a Notice of Intent to Award the contract and following the expiration of the 10-day protest period, a contract be entered into with _____.



State of Alaska Retirement Systems

Presentation to the Alaska Retirement Management
Board (ARMB)

Follow-up to March Meeting and Experience Study Update

May 4, 2022

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Impact of Adverse Asset Returns on Healthcare Funded Ratios

Impact of Asset Returns on Projected Healthcare Funded Ratios

	Market Asset Returns						FY39 HC Funded Ratio	
	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>	<u>FY25</u>	<u>FY26</u>	<u>FY27+</u>	<u>PERS</u>	<u>TRS</u>
Scenario 1	7.38%	7.38%	7.38%	7.38%	7.38%	7.38%	247%	283%
Scenario 2	0.00%	0.00%	0.00%	0.00%	0.00%	7.38%	111%	136%
Scenario 3	-10.00%	0.00%	0.00%	0.00%	0.00%	7.38%	82%	99%

Other than the asset returns, all valuation and projection assumptions are the same as those shown in the draft June 30, 2021 actuarial valuation reports.

Inflation Rate

Impact of Inflation Rate on Liabilities and Contribution Rates

- The inflation rate is an underlying component of the following economic assumptions:
 - Investment return
 - Salary increase rates (affects projected benefits and liabilities for active members only)
 - Healthcare trend rates
 - Payroll growth rate (affects amortization of unfunded liability for PERS/TRS/JRS only)
- The inflation rate *directly* affects the calculation of PERS/TRS liabilities for Postretirement Pension Adjustments (PRPA's)

Inflation Rate Surveys and Forecasts

Source	Date Published	Inflation Rate	Period
Callan's March 2022 ARMB meeting presentation	March 2022	2.25%	10 years
Federal Reserve Bank of Cleveland "2022 Q1 Inflation Expectations"	March 2022	1.93% 2.19%	10 years 30 years
Federal Reserve Bank of Philadelphia "2022 Q1 Survey of Professional Forecasters"	February 2022	2.50%	10 years
Horizon Actuarial Services LLC "2021 Survey of Capital Market Assumptions"	August 2021	2.23%	20 years

Inflation Rate – What Are Other Retirement Systems Using?

System	Date of Experience Study	Inflation Rate Current	Inflation Rate Proposed	Actuarial Firm
Arizona SRS	July 2021	2.30%	2.30%	GRS
Arkansas TRS	November 2021	2.50%	2.50%	GRS
Colorado PERS	October 2020	2.40%	2.30%	Segal
Florida RS	October 2021	2.40%	2.40%	Milliman
Idaho PERS	July 2021	3.00%	2.25%	Milliman
Kentucky TRS	June 2021	3.00%	2.50%	CavMac
Maine PERS	June 2021	2.75%	2.50% to 2.75%	Cheiron
Mississippi PERS	April 2021	2.75%	2.40%	CavMac
Missouri PSRS	April 2021	2.25%	2.00%	PwC
Nebraska PERS	December 2020	2.75%	2.35%	CavMac
Ohio PERS	September 2021	2.50%	2.35%	GRS
Oregon PERS	July 2021	2.50%	2.40%	Milliman
Pennsylvania PSERS	August 2021	2.50%	2.25% to 2.50%	Buck
Tennessee CRS	September 2021	2.50%	2.25%	Findley USI

Source: National Association of State Retirement Administrators (NASRA)

Current vs Proposed Assumptions

Current vs Proposed Assumptions

- Current Assumptions
 - Based on 4 years of experience: 7/1/13 to 6/30/17
 - Assumptions adopted by the ARMB have been used since the 2018 valuations
- Proposed Assumptions
 - Based on 4 years of experience: 7/1/17 to 6/30/21
 - Assumptions adopted by the ARMB will be used beginning with the 2022 valuations
 - Two sets of proposed assumptions
 - #1 – investment return of 7.00% and inflation rate of 2.25% (from March meeting)
 - #2 – investment return of 7.25% and inflation rate of 2.50%
 - All proposed assumptions are shown in red

Current vs Proposed Assumptions – Economic

PERS/TRS/JRS

	Current	Proposed #1	Proposed #2
Nominal Return, net of investment expenses	7.38%	7.00%	7.25%
Inflation Rate	2.50%	2.25%	2.50%
Real Rate of Return (nominal return less inflation)	4.88%	4.75%	4.75%
Payroll Growth Rate (inflation plus 25 bp)	2.75%	2.50%	2.75%

NGNMRS

	Current	Proposed #1	Proposed #2
Nominal Return, net of investment expenses	7.00%	5.75%	5.75%
Inflation Rate	2.50%	2.25%	2.50%
Real Rate of Return (nominal return less inflation)	4.50%	3.50%	3.25%

Current vs Proposed Assumptions – Economic (cont'd)

Salary Increase Rates

PERS/PERS DCR – Peace/Fire

Service	Current	Proposed #1 / #2
0	7.75%	8.25% / 8.50%
1	7.25%	7.50% / 7.75%
2	6.75%	7.00% / 7.25%
3	6.25%	6.75% / 7.00%
4	5.75%	6.50% / 6.75%
5	5.25%	6.00% / 6.25%
6	4.75%	5.50% / 5.75%
7	4.25%	5.25% / 5.50%
8	3.75%	5.00% / 5.25%
9	3.65%	4.80% / 5.05%

Service	Current	Proposed #1 / #2
10	3.55%	4.70% / 4.95%
11	3.45%	4.60% / 4.85%
12	3.35%	4.50% / 4.75%
13	3.25%	4.40% / 4.65%
14	3.15%	4.30% / 4.55%
15	3.05%	4.20% / 4.45%
16	2.95%	4.10% / 4.35%
17	2.85%	4.00% / 4.25%
18	2.75%	3.80% / 4.05%
19	2.75%	3.80% / 4.05%
20+	2.75%	3.60% / 3.85%

PERS/PERS DCR - Others

Service	Current	Proposed #1 / #2
0	6.75%	6.50% / 6.75%
1	6.25%	5.75% / 6.00%
2	5.75%	5.25% / 5.50%
3	5.25%	4.75% / 5.00%
4	4.75%	4.50% / 4.75%
5	4.25%	4.00% / 4.25%
6	3.75%	3.80% / 4.05%
7	3.65%	3.70% / 3.95%
8	3.55%	3.50% / 3.75%
9	3.45%	3.30% / 3.55%

Service	Current	Proposed #1 / #2
10	3.35%	3.20% / 3.45%
11	3.25%	3.00% / 3.25%
12	3.15%	2.85% / 3.10%
13	3.05%	2.80% / 3.05%
14	2.95%	2.75% / 3.00%
15	2.85%	2.70% / 2.95%
16	2.75%	2.65% / 2.90%
17+	2.75%	2.60% / 2.85%

Current vs Proposed Assumptions – Economic (cont'd)

Salary Increase Rates (cont'd)

TRS

Service	Current	Proposed #1 / #2
0	6.75%	6.75% / 7.00%
1	6.25%	6.25% / 6.50%
2	5.75%	5.75% / 6.00%
3	5.25%	5.50% / 5.75%
4	4.75%	5.25% / 5.50%
5	4.25%	5.00% / 5.25%
6	3.75%	4.75% / 5.00%
7	3.65%	4.50% / 4.75%
8	3.55%	4.25% / 4.50%
9	3.45%	4.00% / 4.25%
10	3.35%	3.75% / 4.00%

Service	Current	Proposed #1 / #2
11	3.25%	3.50% / 3.75%
12	3.15%	3.25% / 3.50%
13	3.05%	3.20% / 3.45%
14	2.95%	3.10% / 3.35%
15	2.85%	3.00% / 3.25%
16	2.75%	2.90% / 3.15%
17	2.75%	2.80% / 3.05%
18	2.75%	2.75% / 3.00%
19	2.75%	2.70% / 2.95%
20+	2.75%	2.60% / 2.85%

TRS DCR

Service	Current	Proposed #1 / #2
0	6.75%	7.00% / 7.25%
1	6.25%	6.50% / 6.75%
2	5.75%	6.00% / 6.25%
3	5.25%	5.50% / 5.75%
4	4.75%	5.00% / 5.25%
5	4.25%	4.75% / 5.00%
6	3.75%	4.50% / 4.75%
7	3.65%	4.25% / 4.50%
8	3.55%	4.00% / 4.25%
9	3.45%	3.75% / 4.00%
10	3.35%	3.50% / 3.75%

Service	Current	Proposed #1 / #2
11	3.25%	3.25% / 3.50%
12	3.15%	3.00% / 3.25%
13	3.05%	2.80% / 3.05%
14	2.95%	2.75% / 3.00%
15	2.85%	2.70% / 2.95%
16	2.75%	2.65% / 2.90%
17	2.75%	2.60% / 2.85%
18+	2.75%	2.60% / 2.85%

JRS

Current: 0% per year through FY24, 3.62% per year thereafter
 Proposed #1: 0% per year through FY24, 2.75% per year thereafter
 Proposed #2: 0% per year through FY24, 3.00% per year thereafter

Current vs Proposed Assumptions – Economic (cont'd)

Healthcare Trend Rates

Current

Fiscal Year	Medical Pre-65	Medical Post-65	Prescription Drugs/EGWP
FY22	6.3%	5.4%	7.1%
FY23	6.1%	5.4%	6.8%
FY24	5.9%	5.4%	6.4%
FY25	5.8%	5.4%	6.1%
FY26	5.6%	5.4%	5.7%
FY27-FY40	5.4%	5.4%	5.4%
FY41	5.3%	5.3%	5.3%
FY42	5.2%	5.2%	5.2%
FY43	5.1%	5.1%	5.1%
FY44	5.1%	5.1%	5.1%
FY45	5.0%	5.0%	5.0%
FY46	4.9%	4.9%	4.9%
FY47	4.8%	4.8%	4.8%
FY48	4.7%	4.7%	4.7%
FY49	4.6%	4.6%	4.6%
FY50+	4.5%	4.5%	4.5%

Proposed (#1 / #2)

Fiscal Year	Medical Pre-65	Medical Post-65	Prescription Drugs/EGWP
FY22	6.30% / 6.30%	5.40% / 5.40%	7.10% / 7.10%
FY23	7.00% / 7.00%	5.50% / 5.50%	7.50% / 7.50%
FY24	6.70% / 6.70%	5.50% / 5.50%	7.20% / 7.20%
FY25	6.40% / 6.40%	5.40% / 5.40%	6.90% / 6.90%
FY26	6.15% / 6.20%	5.35% / 5.40%	6.60% / 6.65%
FY27	5.95% / 6.05%	5.30% / 5.35%	6.30% / 6.35%
FY28	5.70% / 5.85%	5.20% / 5.35%	5.95% / 6.10%
FY29	5.50% / 5.65%	5.15% / 5.30%	5.65% / 5.80%
FY30	5.25% / 5.45%	5.10% / 5.30%	5.35% / 5.55%
FY31-FY38	5.05% / 5.30%	5.05% / 5.30%	5.05% / 5.30%
FY39	5.00% / 5.25%	5.00% / 5.25%	5.00% / 5.25%
FY40	4.95% / 5.20%	4.95% / 5.20%	4.95% / 5.20%
FY41	4.85% / 5.10%	4.85% / 5.10%	4.85% / 5.10%
FY42	4.80% / 5.05%	4.80% / 5.05%	4.80% / 5.05%
FY43	4.70% / 4.95%	4.70% / 4.95%	4.70% / 4.95%
FY44	4.65% / 4.90%	4.65% / 4.90%	4.65% / 4.90%
FY45	4.55% / 4.80%	4.55% / 4.80%	4.55% / 4.80%
FY46	4.50% / 4.75%	4.50% / 4.75%	4.50% / 4.75%
FY47	4.45% / 4.70%	4.45% / 4.70%	4.45% / 4.70%
FY48	4.35% / 4.60%	4.35% / 4.60%	4.35% / 4.60%
FY49	4.30% / 4.55%	4.30% / 4.55%	4.30% / 4.55%
FY50+	4.25% / 4.50%	4.25% / 4.50%	4.25% / 4.50%

The trend rates for the 6/30/21 valuations are not being changed.

The proposed assumptions illustrate the trend rates reflecting ultimate rates of either 4.25% (Proposed #1) or 4.50% (Proposed #2). Short-term trend rates were also adjusted based on market survey data and recent experience.

Current vs Proposed Assumptions – Demographic

Pre-Commencement Mortality

Plan	Current Assumption		Proposed Assumption	
	<u>Base Table</u>	<u>Mortality Improvement</u>	<u>Base Table¹</u>	<u>Mortality Improvement</u>
PERS and PERS DCR				
- Peace/Fire	RP-2014	MP-2017	Pub-2010 Safety	MP-2021 ²
- Others	RP-2014	MP-2017	Pub-2010 General	MP-2021 ²
TRS and TRS DCR	RP-2014 White Collar	MP-2017	Pub-2010 Teachers	MP-2021 ²
JRS	RP-2014 White Collar	MP-2017	Pub-2010 General Above-Median ³	MP-2021 ²
NGNMRS	RP-2014	MP-2017	Pub-2010 Safety	MP-2021 ²

1. Amount-weighted version for pension, headcount-weighted version for healthcare.

2. We propose annually updating the mortality improvement scale to the most recently-published scale as of the valuation date. The MP-2021 scale was published in October 2021.

3. Above-Median Income table based on salary of the active participant.

Current vs Proposed Assumptions – Demographic (cont'd)

Post-Commencement Mortality (Pension)

Plan	Current Assumption		Proposed Assumption - Pension	
	<u>Base Table</u>	<u>Mortality Improvement</u>	<u>Base Table¹</u>	<u>Mortality Improvement</u>
PERS and PERS DCR				
- Peace/Fire	RP-2014 (91% male, 96% female)	MP-2017	Pub-2010 Safety (100% male, 100% female)	MP-2021 ²
- Others	RP-2014 (91% male, 96% female)	MP-2017	Pub-2010 General (98% male, 106% female)	MP-2021 ²
TRS and TRS DCR	RP-2014 White Collar (93% male, 90% female)	MP-2017	Pub-2010 Teachers (97% male, 97% female)	MP-2021 ²
JRS	RP-2014 White Collar (93% male, 90% female)	MP-2017	Pub-2010 General Above-Median ³	MP-2021 ²
NGNMRS	RP-2014 (91% male, 96% female)	MP-2017	Pub-2010 Safety (100% male, 100% female)	MP-2021 ²

1. Amount-weighted version. For beneficiaries, Contingent Annuitant table will be used with adjusted rates (not shown here) based on experience and partial credibility.

2. We propose annually updating the mortality improvement scale to the most recently-published scale as of the valuation date. The MP-2021 scale was published in October 2021.

3. Above-Median Income table based on benefit of the retired participant.

Current vs Proposed Assumptions – Demographic (cont'd)

Post-Commencement Mortality (Healthcare)

Plan	Current Assumption		Proposed Assumption - Healthcare	
	<u>Base Table</u>	<u>Mortality Improvement</u>	<u>Base Table¹</u>	<u>Mortality Improvement</u>
PERS and PERS DCR				
- Peace/Fire	RP-2014 (91% male, 96% female)	MP-2017	Pub-2010 Safety (100% male, 100% female)	MP-2021 ²
- Others	RP-2014 (91% male, 96% female)	MP-2017	Pub-2010 General (101% male, 110% female)	MP-2021 ²
TRS and TRS DCR	RP-2014 White Collar (93% male, 90% female)	MP-2017	Pub-2010 Teachers (98% male, 100% female)	MP-2021 ²
JRS	RP-2014 White Collar (93% male, 90% female)	MP-2017	Pub-2010 General Above-Median ³	MP-2021 ²

1. Headcount-weighted version. For beneficiaries, Contingent Annuitant table will be used with adjusted rates (not shown here) based on experience and partial credibility.
2. We propose annually updating the mortality improvement scale to the most recently-published scale as of the valuation date. The MP-2021 scale was published in October 2021.
3. Above-Median Income table based on benefit of the retired participant.

Current vs Proposed Assumptions – Demographic (cont'd)

Retirement – PERS Peace/Fire

Current

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 47	N/A	N/A	8.80%	6.00%
47	N/A	N/A	8.80%	15.00%
48	N/A	N/A	14.30%	15.00%
49	N/A	N/A	14.30%	15.00%
50	5.00%	5.00%	16.50%	15.00%
51	5.00%	7.00%	16.50%	15.00%
52	7.00%	7.00%	20.35%	15.00%
53	7.00%	7.00%	20.35%	15.00%
54	7.00%	35.00%	20.35%	25.00%
55	7.00%	8.00%	27.50%	20.00%
56	7.00%	8.00%	27.50%	15.00%
57	7.00%	8.00%	27.50%	15.00%
58	7.00%	8.00%	27.50%	15.00%
59	20.00%	20.00%	27.50%	15.00%
60	N/A	N/A	33.00%	25.00%
61	N/A	N/A	27.50%	20.00%
62	N/A	N/A	27.50%	30.00%
63	N/A	N/A	27.50%	50.00%
64	N/A	N/A	22.00%	50.00%
65	N/A	N/A	22.00%	50.00%
66	N/A	N/A	27.50%	50.00%
67	N/A	N/A	55.00%	50.00%
68	N/A	N/A	55.00%	50.00%
69	N/A	N/A	55.00%	50.00%
70+	N/A	N/A	100.00%	100.00%

Proposed

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 47	N/A	N/A	9.00%	7.50%
47	N/A	N/A	13.00%	18.50%
48	N/A	N/A	13.00%	18.50%
49	N/A	N/A	13.00%	18.50%
50	5.00%	5.00%	20.00%	21.00%
51	5.00%	5.00%	20.00%	21.00%
52	7.00%	7.00%	20.00%	21.00%
53	7.00%	7.00%	20.00%	21.00%
54	7.00%	7.00%	20.00%	21.00%
55	7.50%	7.50%	29.00%	20.00%
56	7.50%	7.50%	29.00%	20.00%
57	7.50%	7.50%	29.00%	20.00%
58	7.50%	7.50%	29.00%	20.00%
59	20.00%	20.00%	29.00%	20.00%
60	N/A	N/A	29.00%	31.50%
61	N/A	N/A	29.00%	31.50%
62	N/A	N/A	29.00%	31.50%
63	N/A	N/A	29.00%	31.50%
64	N/A	N/A	29.00%	31.50%
65	N/A	N/A	45.00%	45.00%
66	N/A	N/A	45.00%	45.00%
67	N/A	N/A	45.00%	45.00%
68	N/A	N/A	45.00%	45.00%
69	N/A	N/A	45.00%	45.00%
70+	N/A	N/A	100.00%	100.00%

Current vs Proposed Assumptions – Demographic (cont'd)

Retirement – PERS Others

Current

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 50	N/A	N/A	11.00%	11.00%
50	6.00%	8.00%	33.00%	38.50%
51	6.00%	8.00%	35.75%	38.50%
52	9.00%	8.00%	35.75%	38.50%
53	6.00%	8.00%	35.75%	38.50%
54	20.00%	15.00%	38.50%	38.50%
55	6.00%	6.00%	33.00%	33.00%
56	6.00%	6.00%	22.00%	22.00%
57	6.00%	6.00%	22.00%	19.80%
58	6.00%	6.00%	22.00%	19.80%
59	15.00%	20.00%	22.00%	19.80%
60	N/A	N/A	22.00%	23.10%
61	N/A	N/A	22.00%	22.00%
62	N/A	N/A	22.00%	22.00%
63	N/A	N/A	22.00%	22.00%
64	N/A	N/A	22.00%	22.00%
65	N/A	N/A	24.75%	28.60%
66	N/A	N/A	27.50%	28.60%
67	N/A	N/A	22.00%	24.20%
68	N/A	N/A	24.75%	24.20%
69	N/A	N/A	27.50%	24.20%
70	N/A	N/A	27.50%	24.20%
71	N/A	N/A	27.50%	24.20%
72	N/A	N/A	27.50%	27.50%
73	N/A	N/A	27.50%	27.50%
74	N/A	N/A	27.50%	38.50%
75	N/A	N/A	55.00%	55.00%
76	N/A	N/A	55.00%	55.00%
77	N/A	N/A	55.00%	55.00%
78	N/A	N/A	55.00%	55.00%
79	N/A	N/A	55.00%	55.00%
80+	N/A	N/A	100.00%	100.00%

Proposed

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 50	N/A	N/A	11.50%	11.50%
50	7.00%	8.50%	37.50%	40.50%
51	7.00%	8.50%	37.50%	40.50%
52	11.00%	8.50%	37.50%	40.50%
53	11.00%	8.50%	37.50%	40.50%
54	24.00%	16.50%	37.50%	40.50%
55	7.00%	6.50%	25.50%	24.00%
56	7.00%	6.50%	25.50%	24.00%
57	7.00%	6.50%	25.50%	24.00%
58	7.00%	6.50%	25.50%	24.00%
59	18.00%	22.00%	25.50%	24.00%
60	N/A	N/A	26.50%	24.50%
61	N/A	N/A	26.50%	24.50%
62	N/A	N/A	26.50%	24.50%
63	N/A	N/A	26.50%	24.50%
64	N/A	N/A	26.50%	24.50%
65	N/A	N/A	30.50%	28.50%
66	N/A	N/A	30.50%	28.50%
67	N/A	N/A	30.50%	28.50%
68	N/A	N/A	30.50%	28.50%
69	N/A	N/A	30.50%	28.50%
70	N/A	N/A	27.50%	27.50%
71	N/A	N/A	27.50%	27.50%
72	N/A	N/A	27.50%	27.50%
73	N/A	N/A	27.50%	27.50%
74	N/A	N/A	27.50%	27.50%
75	N/A	N/A	50.00%	50.00%
76	N/A	N/A	50.00%	50.00%
77	N/A	N/A	50.00%	50.00%
78	N/A	N/A	50.00%	50.00%
79	N/A	N/A	50.00%	50.00%
80+	N/A	N/A	100.00%	100.00%

Current vs Proposed Assumptions – Demographic (cont'd)

Retirement – TRS

Current

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 45	N/A	N/A	3.0%	3.0%
45	N/A	N/A	5.0%	5.0%
46	N/A	N/A	5.0%	8.0%
47	N/A	N/A	5.0%	8.0%
48	N/A	N/A	5.0%	8.0%
49	N/A	N/A	5.0%	8.0%
50	10.0%	10.0%	5.0%	14.0%
51	10.0%	10.0%	8.0%	13.0%
52	10.0%	10.0%	15.0%	13.0%
53	10.0%	12.0%	15.0%	14.0%
54	10.0%	12.0%	15.0%	15.0%
55	15.0%	8.0%	20.0%	17.0%
56	10.0%	8.0%	17.0%	17.0%
57	10.0%	8.0%	15.0%	17.0%
58	10.0%	8.0%	20.0%	17.0%
59	10.0%	8.0%	20.0%	23.0%
60	N/A	N/A	25.0%	23.0%
61	N/A	N/A	18.0%	23.0%
62	N/A	N/A	18.0%	21.0%
63	N/A	N/A	18.0%	21.0%
64	N/A	N/A	18.0%	26.0%
65	N/A	N/A	30.0%	21.0%
66	N/A	N/A	25.0%	21.0%
67	N/A	N/A	25.0%	21.0%
68	N/A	N/A	25.0%	26.0%
69	N/A	N/A	35.0%	26.0%
70	N/A	N/A	30.0%	26.0%
71	N/A	N/A	30.0%	37.0%
72	N/A	N/A	30.0%	37.0%
73	N/A	N/A	30.0%	37.0%
74	N/A	N/A	30.0%	37.0%
75 - 79	N/A	N/A	50.0%	50.0%
80+	N/A	N/A	100.0%	100.0%

Proposed

Age	Reduced		Unreduced	
	Male	Female	Male	Female
< 45	N/A	N/A	3.00%	3.00%
45	N/A	N/A	5.50%	7.00%
46	N/A	N/A	5.50%	7.00%
47	N/A	N/A	5.50%	7.00%
48	N/A	N/A	5.50%	7.00%
49	N/A	N/A	5.50%	7.00%
50	5.00%	5.00%	12.50%	13.00%
51	5.00%	5.00%	12.50%	13.00%
52	5.00%	10.00%	12.50%	13.00%
53	5.00%	5.00%	12.50%	13.00%
54	10.00%	5.00%	12.50%	13.00%
55	14.50%	11.00%	20.00%	17.50%
56	9.50%	11.00%	20.00%	17.50%
57	9.50%	11.00%	20.00%	17.50%
58	9.50%	11.00%	20.00%	17.50%
59	9.50%	11.00%	20.00%	17.50%
60	N/A	N/A	19.50%	23.50%
61	N/A	N/A	19.50%	23.50%
62	N/A	N/A	19.50%	23.50%
63	N/A	N/A	19.50%	23.50%
64	N/A	N/A	19.50%	23.50%
65	N/A	N/A	28.00%	23.50%
66	N/A	N/A	28.00%	23.50%
67	N/A	N/A	28.00%	23.50%
68	N/A	N/A	28.00%	23.50%
69	N/A	N/A	28.00%	23.50%
70	N/A	N/A	30.00%	36.00%
71	N/A	N/A	30.00%	36.00%
72	N/A	N/A	30.00%	36.00%
73	N/A	N/A	30.00%	36.00%
74	N/A	N/A	30.00%	36.00%
75 - 79	N/A	N/A	50.00%	50.00%
80+	N/A	N/A	100.00%	100.00%

Current vs Proposed Assumptions – Demographic (cont'd)

Retirement – PERS DCR

Current		Proposed	
Age	Rate	Age	Rate
< 55	2.0%	< 55	2.0%
55	3.0%	55	3.0%
56	3.0%	56	3.0%
57	3.0%	57	3.0%
58	3.0%	58	3.0%
59	3.0%	59	3.0%
60	5.0%	60	5.0%
61	5.0%	61	5.0%
62	10.0%	62	10.0%
63	5.0%	63	5.0%
64	5.0%	64	5.0%
65	25.0%	65	25.0%
66	25.0%	66	25.0%
67	25.0%	67	25.0%
68	20.0%	68	20.0%
69	20.0%	69	20.0%
70+	100.0%	70+	100.0%

Retirement – TRS DCR

Current		Proposed	
Age	Rate	Age	Rate
< 55	2.0%	< 55	2.0%
55	3.0%	55	3.0%
56	3.0%	56	3.0%
57	3.0%	57	3.0%
58	3.0%	58	3.0%
59	3.0%	59	3.0%
60	5.0%	60	5.0%
61	5.0%	61	5.0%
62	10.0%	62	10.0%
63	5.0%	63	5.0%
64	5.0%	64	5.0%
65	25.0%	65	25.0%
66	25.0%	66	25.0%
67	25.0%	67	25.0%
68	20.0%	68	20.0%
69	20.0%	69	20.0%
70+	100.0%	70+	100.0%

Current vs Proposed Assumptions – Demographic (cont'd)

Retirement – NGNMRS

Current			Proposed		
Age	Male	Female	Age	Male	Female
< 51	13.00%	13.00%	< 51	15.34%	18.20%
51	13.00%	13.00%	51	15.34%	18.20%
52	13.00%	13.00%	52	15.34%	18.20%
53	15.00%	15.00%	53	17.70%	21.00%
54	20.00%	20.00%	54	23.60%	28.00%
55	25.00%	25.00%	55	18.50%	16.25%
56	35.00%	35.00%	56	25.90%	22.75%
57	40.00%	40.00%	57	29.60%	26.00%
58	45.00%	45.00%	58	33.30%	29.25%
59	50.00%	50.00%	59	37.00%	32.50%
60	55.00%	55.00%	60	40.70%	35.75%
61	60.00%	60.00%	61	44.40%	35.75%
62	60.00%	60.00%	62	44.40%	35.75%
63	60.00%	60.00%	63	44.40%	35.75%
64	60.00%	60.00%	64	44.40%	35.75%
65+	100.00%	100.00%	65+	100.00%	100.00%

Retirement – JRS

Current		Proposed	
Age	Rate	Age	Rate
< 59	3%	< 59	3%
59	10%	59	10%
60	20%	60	20%
61	20%	61	20%
62	10%	62	10%
63	10%	63	10%
64	10%	64	10%
65	20%	65	20%
66	20%	66	20%
67	10%	67	10%
68	10%	68	10%
69	10%	69	10%
70+	100%	70+	100%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – PERS Peace/Fire

Current

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
0	15.00%	15.00%
1	12.00%	8.00%
2	7.20%	6.40%
3	5.67%	5.60%
4	6.48%	7.20%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female	Age	Male	Female
< 23	4.70%	6.80%	39	2.04%	2.98%
23	4.46%	6.80%	40	1.68%	3.39%
24	4.22%	6.80%	41	1.67%	3.37%
25	3.98%	6.80%	42	1.67%	3.36%
26	3.74%	6.80%	43	1.71%	3.33%
27	3.50%	6.80%	44	1.76%	3.31%
28	3.32%	6.63%	45	1.81%	3.28%
29	3.14%	6.46%	46	1.85%	3.25%
30	2.96%	6.29%	47	1.90%	3.23%
31	2.79%	6.12%	48	2.22%	3.19%
32	2.61%	5.95%	49	2.53%	3.15%
33	2.50%	5.36%	50	3.18%	6.42%
34	2.39%	4.77%	51	4.24%	6.32%
35	2.28%	4.18%	52	4.24%	6.19%
36	2.17%	3.60%	53	4.24%	6.04%
37	2.06%	3.01%	54	4.24%	3.00%
38	2.05%	2.99%	55+	3.00%	2.00%

Proposed

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
0	15.00%	15.00%
1	12.00%	8.00%
2	7.20%	6.40%
3	5.67%	5.60%
4	6.48%	7.20%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female	Age	Male	Female
< 23	2.40%	5.80%	39	1.60%	3.00%
23	2.40%	5.80%	40	1.30%	3.00%
24	2.40%	5.80%	41	1.30%	3.00%
25	2.40%	5.80%	42	1.30%	3.00%
26	2.40%	5.80%	43	1.30%	3.00%
27	2.40%	5.80%	44	1.30%	3.00%
28	2.40%	5.80%	45	1.50%	2.90%
29	2.40%	5.80%	46	1.50%	2.90%
30	2.00%	5.10%	47	1.50%	2.90%
31	2.00%	5.10%	48	1.50%	2.90%
32	2.00%	5.10%	49	1.50%	2.90%
33	2.00%	5.10%	50	3.00%	5.00%
34	2.00%	5.10%	51	3.00%	5.00%
35	1.60%	3.00%	52	3.00%	5.00%
36	1.60%	3.00%	53	3.00%	5.00%
37	1.60%	3.00%	54	3.00%	5.00%
38	1.60%	3.00%	55+	2.25%	1.80%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – PERS Others

Current

Select Rates during the First 5 Years of Employment

Hire Age Under 35			Hire Age Over 35		
Years of Service	Male	Female	Years of Service	Male	Female
0	29.00%	29.00%	0	20.00%	20.00%
1	16.25%	20.00%	1	12.00%	15.00%
2	13.00%	16.00%	2	10.00%	12.50%
3	10.40%	12.80%	3	8.50%	10.00%
4	8.45%	10.40%	4	8.50%	9.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female	Age	Male	Female
< 23	11.40%	12.99%	39	5.47%	5.23%
23	10.83%	12.21%	40	4.86%	5.65%
24	10.26%	11.43%	41	4.71%	5.51%
25	9.69%	10.65%	42	4.56%	5.38%
26	9.12%	9.87%	43	4.50%	5.19%
27	8.55%	9.09%	44	4.44%	4.99%
28	8.30%	8.72%	45	4.39%	4.80%
29	8.05%	8.34%	46	4.33%	4.60%
30	7.80%	7.97%	47	4.27%	4.41%
31	7.54%	7.60%	48	4.26%	4.40%
32	7.29%	7.23%	49	4.24%	4.39%
33	6.99%	6.88%	50	3.63%	4.45%
34	6.69%	6.53%	51	3.60%	4.43%
35	6.39%	6.17%	52	3.56%	4.40%
36	6.10%	5.82%	53	3.52%	4.37%
37	5.80%	5.47%	54	4.17%	6.20%
38	5.63%	5.35%	55+	3.00%	5.00%

Proposed

Select Rates during the First 5 Years of Employment

Hire Age Under 35			Hire Age Over 35		
Years of Service	Male	Female	Years of Service	Male	Female
0	29.00%	29.00%	0	20.00%	20.00%
1	16.25%	20.00%	1	12.00%	15.00%
2	13.00%	16.00%	2	10.00%	12.50%
3	10.40%	12.80%	3	8.50%	10.00%
4	8.45%	10.40%	4	8.50%	9.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female	Age	Male	Female
< 23	7.80%	8.20%	39	5.70%	5.50%
23	7.80%	8.20%	40	4.50%	5.20%
24	7.80%	8.20%	41	4.50%	5.20%
25	7.80%	8.20%	42	4.50%	5.20%
26	7.80%	8.20%	43	4.50%	5.20%
27	7.80%	8.20%	44	4.50%	5.20%
28	7.80%	8.20%	45	4.20%	4.40%
29	7.80%	8.20%	46	4.20%	4.40%
30	7.00%	7.10%	47	4.20%	4.40%
31	7.00%	7.10%	48	4.20%	4.40%
32	7.00%	7.10%	49	4.20%	4.40%
33	7.00%	7.10%	50	3.60%	4.70%
34	7.00%	7.10%	51	3.60%	4.70%
35	5.70%	5.50%	52	3.60%	4.70%
36	5.70%	5.50%	53	3.60%	4.70%
37	5.70%	5.50%	54	3.60%	4.70%
38	5.70%	5.50%	55+	2.90%	4.90%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – TRS

Current

Select Rates during the First 8 Years of Employment

Years of Service	Male	Female
0	20.40%	17.00%
1	20.40%	17.00%
2	16.80%	14.00%
3	14.40%	12.00%
4	12.00%	10.00%
5	10.80%	9.00%
6	9.00%	7.50%
7	7.20%	6.00%

Ultimate Rates after the First 8 Years of Employment

Age	Male	Female
22	2.62%	3.79%
23	2.62%	3.79%
24	2.61%	3.79%
25	2.61%	3.79%
26	2.61%	3.79%
27	2.60%	3.79%
28	2.60%	4.27%
29	2.60%	4.76%
30	2.60%	5.24%
31	2.60%	5.73%
32	2.59%	6.22%
33	2.59%	5.72%
34	2.59%	5.23%
35	2.59%	4.74%
36	2.58%	4.25%
37	2.58%	3.75%
38	2.58%	3.75%

Proposed

Select Rates during the First 8 Years of Employment

Years of Service	Male	Female
0	20.40%	17.00%
1	20.40%	17.00%
2	16.80%	14.00%
3	14.40%	12.00%
4	12.00%	10.00%
5	10.80%	9.00%
6	9.00%	7.50%
7	7.20%	6.00%

Ultimate Rates after the First 8 Years of Employment

Age	Male	Female
22	3.60%	4.60%
23	3.60%	4.60%
24	3.60%	4.60%
25	3.60%	4.60%
26	3.60%	4.60%
27	3.60%	4.60%
28	3.60%	4.60%
29	3.60%	4.60%
30	3.60%	5.40%
31	3.60%	5.40%
32	3.60%	5.40%
33	3.60%	5.40%
34	3.60%	5.40%
35	3.60%	3.90%
36	3.60%	3.90%
37	3.60%	3.90%
38	3.60%	3.90%

Age	Male	Female
39	3.60%	3.90%
40	3.10%	2.60%
41	3.10%	2.60%
42	3.10%	2.60%
43	3.10%	2.60%
44	3.10%	2.60%
45	3.10%	2.60%
46	3.10%	2.60%
47	3.10%	2.60%
48	3.10%	2.60%
49	3.10%	2.60%
50	4.60%	4.80%
51	4.60%	4.80%
52	4.60%	4.80%
53	4.60%	4.80%
54	4.60%	4.80%
55+	2.80%	4.80%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – PERS DCR Peace/Fire

Current

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
0	18.90%	20.63%
1	14.18%	16.50%
2	10.50%	13.75%
3	9.45%	12.38%
4	8.40%	11.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 23	5.52%	11.97%
23	5.65%	11.97%
24	5.78%	11.97%
25	5.91%	11.97%
26	6.04%	11.97%
27	6.16%	11.97%
28	6.16%	11.94%
29	6.15%	11.91%
30	6.14%	11.88%
31	6.14%	11.84%
32	6.12%	11.81%
33	6.11%	11.79%
34	6.09%	11.77%
35	6.08%	11.75%
36	6.07%	11.72%
37	6.05%	11.70%
38	6.03%	11.60%
39	6.00%	11.50%
40	5.98%	11.40%
41	5.95%	11.30%
42	5.93%	11.20%
43	5.85%	11.14%

Age	Male	Female
44	5.78%	11.09%
45	5.71%	11.03%
46	5.64%	10.98%
47	5.57%	10.92%
48	6.01%	10.84%
49	6.45%	10.75%
50	6.89%	10.67%
51	7.32%	10.58%
52	7.76%	10.50%
53	7.97%	10.66%
54	8.18%	10.82%
55	8.38%	10.98%
56	8.59%	11.15%
57	8.80%	11.31%
58	9.03%	11.47%
59	9.25%	11.63%
60	9.48%	11.79%
61	9.71%	11.95%
62	9.94%	12.12%
63	12.37%	12.28%
64	14.81%	12.44%
65+	17.25%	12.60%

Proposed

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
0	17.00%	27.00%
1	12.00%	21.00%
2	11.00%	15.00%
3	11.00%	13.00%
4	10.00%	9.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 23	6.60%	10.20%
23	6.60%	10.20%
24	6.60%	10.20%
25	6.60%	10.20%
26	6.60%	10.20%
27	6.60%	10.20%
28	6.60%	10.20%
29	6.60%	10.20%
30	6.80%	10.00%
31	6.80%	10.00%
32	6.80%	10.00%
33	6.80%	10.00%
34	6.80%	10.00%
35	6.70%	9.90%
36	6.70%	9.90%
37	6.70%	9.90%
38	6.70%	9.90%
39	6.70%	9.90%
40	6.50%	9.50%
41	6.50%	9.50%
42	6.50%	9.50%
43	6.50%	9.50%

Age	Male	Female
44	6.50%	9.50%
45	6.50%	9.30%
46	6.50%	9.30%
47	6.50%	9.30%
48	6.50%	9.30%
49	6.50%	9.30%
50	8.50%	9.10%
51	8.50%	9.10%
52	8.50%	9.10%
53	8.50%	9.10%
54	8.50%	9.10%
55	9.80%	9.60%
56	9.80%	9.60%
57	9.80%	9.60%
58	9.80%	9.60%
59	9.80%	9.60%
60	12.50%	10.30%
61	12.50%	10.30%
62	12.50%	10.30%
63	12.50%	10.30%
64	12.50%	10.30%
65+	19.20%	10.70%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – PERS DCR Others

Current

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
0	24.36%	27.98%
1	21.00%	22.31%
2	16.80%	17.85%
3	13.44%	14.28%
4	9.45%	12.34%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 23	13.71%	16.50%
23	13.71%	16.51%
24	13.71%	16.51%
25	13.71%	16.52%
26	13.71%	16.53%
27	13.71%	16.54%
28	13.41%	15.94%
29	13.21%	15.34%
30	12.82%	17.75%
31	12.52%	14.15%
32	12.22%	13.55%
33	11.65%	12.90%
34	11.09%	12.24%
35	10.52%	11.58%
36	9.95%	10.92%
37	9.39%	10.26%
38	9.12%	9.98%
39	8.86%	9.70%
40	8.60%	9.42%
41	8.32%	9.14%
42	8.07%	8.86%
43	7.95%	8.54%

Proposed

Select Rates during the First 5 Years of Employment

Years of Service	Male	Female
0	28.00%	29.00%
1	20.00%	24.00%
2	16.00%	19.00%
3	14.00%	16.00%
4	12.00%	14.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
< 23	13.70%	15.80%
23	13.70%	15.80%
24	13.70%	15.80%
25	13.70%	15.80%
26	13.70%	15.80%
27	13.70%	15.80%
28	13.70%	15.80%
29	13.70%	15.80%
30	12.20%	11.20%
31	12.20%	11.20%
32	12.20%	11.20%
33	12.20%	11.20%
34	12.20%	11.20%
35	9.70%	10.20%
36	9.70%	10.20%
37	9.70%	10.20%
38	9.70%	10.20%
39	9.70%	10.20%
40	8.50%	10.60%
41	8.50%	10.60%
42	8.50%	10.60%
43	8.50%	10.60%

Age	Male	Female
44	8.50%	10.60%
45	8.90%	8.90%
46	8.90%	8.90%
47	8.90%	8.90%
48	8.90%	8.90%
49	8.90%	8.90%
50	8.40%	8.70%
51	8.40%	8.70%
52	8.40%	8.70%
53	8.40%	8.70%
54	8.40%	8.70%
55	8.70%	9.50%
56	8.70%	9.50%
57	8.70%	9.50%
58	8.70%	9.50%
59	8.70%	9.50%
60	10.10%	11.80%
61	10.10%	11.80%
62	10.10%	11.80%
63	10.10%	11.80%
64	10.10%	11.80%
65+	11.20%	15.70%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – TRS DCR

Current

Select Rates during the First 6 Years of Employment

Years of Service	Male	Female
0	20.70%	21.80%
1	19.55%	18.70%
2	16.10%	15.40%
3	13.80%	13.20%
4	11.50%	11.00%
5	7.32%	8.05%

Ultimate Rates after the First 6 Years of Employment

Age	Male	Female
< 26	9.41%	8.31%
26	9.41%	8.32%
27	9.40%	8.33%
28	9.39%	8.32%
29	9.39%	8.32%
30	9.38%	8.31%
31	9.37%	8.31%
32	9.36%	8.30%
33	9.35%	8.29%
34	9.35%	8.28%
35	9.34%	8.27%
36	9.34%	8.26%
37	9.33%	8.25%
38	9.31%	8.24%
39	9.29%	8.22%
40	9.26%	8.21%
41	9.24%	8.19%
42	9.22%	8.17%
43	9.16%	8.15%
44	9.11%	8.12%

Age	Male	Female
45	9.05%	8.09%
46	8.99%	8.07%
47	8.94%	8.04%
48	8.86%	8.00%
49	8.78%	7.95%
50	8.70%	7.91%
51	8.62%	7.86%
52	8.54%	7.82%
53	8.37%	7.73%
54	8.20%	7.64%
55	8.03%	7.55%
56	7.86%	7.46%
57	7.69%	7.36%
58	7.76%	7.50%
59	7.82%	7.64%
60	7.89%	7.78%
61	7.95%	7.92%
62	8.02%	8.05%
63	8.59%	8.29%
64	9.17%	8.52%
65+	9.75%	8.75%

Proposed

Select Rates during the First 6 Years of Employment

Years of Service	Male	Female
0	28.00%	31.00%
1	28.00%	21.00%
2	19.00%	18.00%
3	17.00%	13.00%
4	13.00%	13.00%
5	13.00%	10.00%

Ultimate Rates after the First 6 Years of Employment

Age	Male	Female
< 26	10.50%	8.70%
26	10.50%	8.70%
27	10.50%	8.70%
28	10.50%	8.70%
29	10.50%	8.70%
30	10.50%	8.70%
31	10.50%	8.70%
32	10.50%	8.70%
33	10.50%	8.70%
34	10.50%	8.70%
35	10.40%	8.60%
36	10.40%	8.60%
37	10.40%	8.60%
38	10.40%	8.60%
39	10.40%	8.60%
40	10.30%	8.60%
41	10.30%	8.60%
42	10.30%	8.60%
43	10.30%	8.60%
44	10.30%	8.60%

Age	Male	Female
45	10.00%	8.40%
46	10.00%	8.40%
47	10.00%	8.40%
48	10.00%	8.40%
49	10.00%	8.40%
50	9.50%	8.10%
51	9.50%	8.10%
52	9.50%	8.10%
53	9.50%	8.10%
54	9.50%	8.10%
55	8.80%	7.90%
56	8.80%	7.90%
57	8.80%	7.90%
58	8.80%	7.90%
59	8.80%	7.90%
60	9.30%	8.70%
61	9.30%	8.70%
62	9.30%	8.70%
63	9.30%	8.70%
64	9.30%	8.70%
65+	10.90%	7.40%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – JRS

Current

Years of Service	Rate
0	3%
1	3%
2	3%
3	3%
4	3%
5	3%
6	3%
7	3%
8	3%
9	3%
10+	1%

Proposed

Years of Service	Rate
0	3%
1	3%
2	3%
3	3%
4	3%
5	3%
6	3%
7	3%
8	3%
9	3%
10+	1%

Current vs Proposed Assumptions – Demographic (cont'd)

Withdrawal – NGNMRS

Current

Select Rates during the First 5 Years of Employment

Years of Service	Unisex
0	20.00%
1	10.00%
2	10.00%
3	10.00%
4	10.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
20	14.94%	18.92%
21	14.13%	17.90%
22	13.44%	17.03%
23	12.86%	16.29%
24	12.40%	15.70%
25	12.03%	15.24%
26	11.74%	14.87%
27	11.52%	14.59%
28	11.35%	14.37%
29	11.21%	14.20%
30	11.09%	14.05%
31	10.98%	13.91%
32	10.86%	13.76%
33	10.73%	13.59%
34	10.57%	13.39%
35	10.37%	13.14%
36	10.15%	12.85%
37	9.89%	12.53%
38	9.62%	12.18%
39	9.35%	11.84%

Proposed

Select Rates during the First 5 Years of Employment

Years of Service	Unisex
0	20.00%
1	10.00%
2	10.00%
3	10.00%
4	10.00%

Ultimate Rates after the First 5 Years of Employment

Age	Male	Female
20	9.53%	9.94%
21	9.53%	9.94%
22	9.53%	9.94%
23	9.53%	9.94%
24	9.53%	9.94%
25	9.53%	9.94%
26	9.53%	9.94%
27	9.53%	9.94%
28	9.53%	9.94%
29	9.53%	9.94%
30	9.43%	9.84%
31	9.33%	9.74%
32	9.23%	9.63%
33	9.12%	9.51%
34	8.98%	9.37%
35	8.81%	9.20%
36	8.63%	9.00%
37	8.41%	8.77%
38	8.18%	8.53%
39	7.95%	8.29%

Age	Male	Female
40	7.73%	8.06%
41	7.54%	7.87%
42	7.38%	7.70%
43	7.23%	7.55%
44	7.06%	7.37%
45	6.83%	7.13%
46	6.51%	6.79%
47	6.06%	6.32%
48	5.49%	5.73%
49	4.82%	5.03%
50	4.16%	4.33%
51	3.63%	3.79%
52	3.26%	3.40%
53	2.98%	3.12%
54	2.78%	2.91%
55	2.64%	2.75%
56	2.57%	2.67%
57	2.58%	2.69%
58	2.64%	2.76%
59	2.78%	2.90%
60	2.88%	3.00%

Current vs Proposed Assumptions – Demographic (cont'd)

- **Disability**

- Insufficient disability experience, so we propose no changes to the current disability rates

- **Occupational-related death and disability**

	Current	Actual	Proposed
PERS – P/F	75%	72%	70%
PERS – Others	40%	36%	35%
TRS	15%	n/a	15%

- **Withdrawal of contributions upon termination**

	Current	Actual	Proposed
PERS – P/F	10%	5%	5%
PERS - Others	5%	4%	5%
TRS	0%	1%	0%

- **Rehires (percentage load to Normal Cost)**

	Current	Actual	Proposed
PERS – pension	18.77%	15.33%	15.30%
PERS – healthcare	17.09%	2.36%	2.40%
TRS – pension	15.57%	11.98%	12.00%
TRS - healthcare	12.03%	0.20%	0.20%

Comments regarding the rehire assumption:

- The current rehire loads for the DB plans, which were developed based on the 5 years of experience ending in 2017, were too high based on the most recent 4 years of rehire experience. The actual liabilities from rehires during the last 4 years were compared to the current rehire loads, and adjustments were made to the current rehire loads to better match recent experience.
- With lower proposed rehire loads for healthcare, a greater portion of the fixed employer contributions (22% for PERS and 12.56% for TRS) will be deposited to the DB pension trusts rather than the DB healthcare trusts. Based on the comparative funded ratios of the DB pension and DB healthcare trusts, we believe it is more prudent to deposit more contributions to the DB pension trusts.
- There have been recent suggestions to implement rehire loads for the DCR plans. Doing so would increase the portion of the fixed employer contributions being deposited to the DCR trusts. Because the DCR trusts are so well funded, they are able to absorb any reasonable losses due to rehires. Therefore, we believe it is more prudent to deposit more contributions to the DB trusts. Accordingly, we are proposing no rehire loads for the DCR plans at this time.

Current vs Proposed Assumptions – Demographic (cont'd)

- **Unused sick days (TRS)**

- Current: 4.5 days
- Actual: 5.30 days
- Proposed: **5.25 days**

- **Population growth rate**

- Current: 0%
- Actual: -0.05% (PERS); -1.48% (TRS)
- Proposed: **0%**

- **Alaska residency for COLA**

	Current	Actual	Proposed
PERS – P/F	65%	60%	60%
PERS – Others	70%	65%	65%
TRS	60%	59%	60%

- **Part-time service (years)**

	Current	Actual	Proposed
PERS – P/F	1.00	n/a	1.00
PERS – Others	0.75	0.68	0.75
TRS	0.75	0.76	0.75

Current vs Proposed Assumptions – Demographic (cont'd)

- **Percent electing lump sums (NGNMRS)**

	Current	Actual	Proposed
Active	70%	49%	50%
Terminated Vested	70%	52%	50%

- **Healthcare dependent assumptions**

- **Dependent spouse medical coverage election**

	Current		Actual		Proposed	
	Male	Female	Male	Female	Male	Female
PERS - P/F	75%	50%	72%	45%	75%	50%
PERS - Others	65%	60%	57%	46%	60%	50%
TRS	65%	60%	56%	47%	60%	50%
JRS	90%	70%	69%	17%	80%	60%

- **Spouse age difference**

	Current		Actual		Proposed	
	Male	Female	Male	Female	Male	Female
PERS – P/F	3	-2	2.7	-2.6	3	-2
PERS – Others	3	-2	3.5	-1.8	3	-2
TRS	3	-2	3.4	-1.7	3	-2
JRS	4	-4	2.5	4.4	4	-4

Current vs Proposed Assumptions – Demographic (cont'd)

- **Healthcare participation**

	Current		Actual		Proposed	
	System paid	Non-System paid	System paid	Non-System paid	System paid	Non-System paid
PERS – P/F	100%	20%	96%	21%	100%	20%
PERS – Others	100%	20%	98%	28%	100%	25%
TRS	100%	20%	94%	22%	100%	20%

- **Medicare Part B only**

- Current: 5%
- Actual: 2%
- Proposed: 2%

- **Healthcare morbidity**

Age	Current		Proposed	
	Medical	Rx	Medical	Rx
0-44	2.0%	4.5%	2.0%	4.5%
45-54	2.5%	3.5%	2.5%	3.5%
55-64	2.5%	1.5%	2.5%	1.0%
65-74	3.0%	2.0%	2.0%	2.1%
75-84	2.0%	-0.5%	2.2%	-0.3%
85-94	0.3%	-2.5%	0.5%	-2.5%
95+	0.0%	0.0%	0.0%	0.0%

Cost Effects of Proposed Assumptions

Cost Effects of Proposed Assumptions

PERS

as of June 30, 2020 (\$000's)	Current			Proposed #1			Proposed #2		
	Pension	Healthcare	Total	Pension	Healthcare	Total	Pension	Healthcare	Total
1. Actuarial Accrued Liability (AAL)	15,279,525	7,036,550	22,316,075	15,667,382	7,034,680	22,702,062	15,521,476	6,938,951	22,460,427
2. Actuarial Value of Assets (AVA)	<u>9,713,710</u>	<u>7,989,358</u>	<u>17,703,068</u>	<u>9,713,710</u>	<u>7,989,358</u>	<u>17,703,068</u>	<u>9,713,710</u>	<u>7,989,358</u>	<u>17,703,068</u>
3. Unfunded Actuarial Accrued Liability (AAL - AVA)	5,565,815	(952,808)	4,613,007	5,953,672	(954,678)	4,998,994	5,807,766	(1,050,407)	4,757,359
4. Funded Ratio (AVA / AAL)	63.6%	113.5%	79.3%	62.0%	113.6%	78.0%	62.6%	115.1%	78.8%
5. Normal Cost (Total)	137,815	84,825	222,640	147,723	78,469	226,192	145,544	77,551	223,095
6. Projected DB/DCR Payroll for Upcoming Year			2,373,078			2,371,708			2,377,354
7. Contribution Rate as of 6/30/20*									
7a. Normal Cost Rate (Employer)	3.09%	3.57%	6.66%	3.51%	3.31%	6.82%	3.40%	3.26%	6.66%
7b. Unfunded Liability Amortization Rate	<u>17.45%</u>	<u>(2.66%)</u>	<u>17.45%</u>	<u>18.35%</u>	<u>(2.64%)</u>	<u>18.35%</u>	<u>17.90%</u>	<u>(2.89%)</u>	<u>17.90%</u>
7c. Total Rate (not less than Employer Normal Cost)	20.54%	3.57%	24.11%	21.86%	3.31%	25.17%	21.30%	3.26%	24.56%

* % of projected DB/DCR payroll for the upcoming year

Cost Effects of Proposed Assumptions (cont'd)

TRS

as of June 30, 2020 (\$000's)	Current			Proposed #1			Proposed #2		
	Pension	Healthcare	Total	Pension	Healthcare	Total	Pension	Healthcare	Total
1. Actuarial Accrued Liability (AAL)	7,447,036	2,489,675	9,936,711	7,670,804	2,538,043	10,208,847	7,603,845	2,502,836	10,106,681
2. Actuarial Value of Assets (AVA)	<u>5,587,064</u>	<u>3,021,283</u>	<u>8,608,347</u>	<u>5,587,064</u>	<u>3,021,283</u>	<u>8,608,347</u>	<u>5,587,064</u>	<u>3,021,283</u>	<u>8,608,347</u>
3. Unfunded Actuarial Accrued Liability (AAL - AVA)	1,859,972	(531,608)	1,328,364	2,083,740	(483,240)	1,600,500	2,016,781	(518,447)	1,498,334
4. Funded Ratio (AVA / AAL)	75.0%	121.4%	86.6%	72.8%	119.0%	84.3%	73.5%	120.7%	85.2%
5. Normal Cost (Total)	51,404	24,419	75,823	55,252	24,021	79,273	54,623	23,706	78,329
6. Projected DB/DCR Payroll for Upcoming Year			741,090			742,178			743,963
7. Contribution Rate as of 6/30/20*									
7a. Normal Cost Rate (Employer)	2.86%	3.30%	6.16%	3.37%	3.24%	6.61%	3.27%	3.19%	6.46%
7b. Unfunded Liability Amortization Rate	<u>18.87%</u>	<u>(4.82%)</u>	<u>18.87%</u>	<u>20.60%</u>	<u>(4.35%)</u>	<u>20.60%</u>	<u>19.96%</u>	<u>(4.63%)</u>	<u>19.96%</u>
7c. Total Rate (not less than Employer Normal Cost)	21.73%	3.30%	25.03%	23.97%	3.24%	27.21%	23.23%	3.19%	26.42%

* % of projected DB/DCR payroll for the upcoming year

Cost Effects of Proposed Assumptions (cont'd)

PERS DCR

as of June 30, 2020 (\$000's)	Current			Proposed #1			Proposed #2		
	ODD	Healthcare	Total	ODD	Healthcare	Total	ODD	Healthcare	Total
1. Actuarial Accrued Liability (AAL)	10,634	150,701	161,335	11,709	135,014	146,723	11,577	132,846	144,423
2. Actuarial Value of Assets (AVA)	<u>43,029</u>	<u>144,747</u>	<u>187,776</u>	<u>43,029</u>	<u>144,747</u>	<u>187,776</u>	<u>43,029</u>	<u>144,747</u>	<u>187,776</u>
3. Unfunded Actuarial Accrued Liability (AAL - AVA)	(32,395)	5,954	(26,441)	(31,320)	(9,733)	(41,053)	(31,452)	(11,901)	(43,353)
4. Funded Ratio (AVA / AAL)	404.6%	96.0%	116.4%	367.5%	107.2%	128.0%	371.7%	109.0%	130.0%
5. Normal Cost	5,134	15,182	20,316	4,486	12,905	17,391	4,442	12,698	17,140
6. Projected DCR Payroll for Upcoming Year			1,443,017			1,441,293			1,444,680
7. Contribution Rate as of 6/30/20*									
7a. Normal Cost Rate	0.36%	1.05%	1.41%	0.31%	0.90%	1.21%	0.31%	0.88%	1.19%
7b. Unfunded Liability Amortization Rate	<u>(0.17%)</u>	<u>0.05%</u>	<u>0.05%</u>	<u>(0.16%)</u>	<u>(0.02%)</u>	<u>(0.18%)</u>	<u>(0.16%)</u>	<u>(0.03%)</u>	<u>(0.19%)</u>
7c. Total Rate (not less than Employer Normal Cost)	0.36%	1.10%	1.46%	0.31%	0.90%	1.21%	0.31%	0.88%	1.19%

* % of projected DCR payroll for the upcoming year

Cost Effects of Proposed Assumptions (cont'd)

TRS DCR

as of June 30, 2020 (\$000's)	Current			Proposed #1			Proposed #2		
	ODD	Healthcare	Total	ODD	Healthcare	Total	ODD	Healthcare	Total
1. Actuarial Accrued Liability (AAL)	223	40,634	40,857	221	38,624	38,845	223	38,002	38,225
2. Actuarial Value of Assets (AVA)	<u>4,933</u>	<u>49,554</u>	<u>54,487</u>	<u>4,933</u>	<u>49,554</u>	<u>54,487</u>	<u>4,933</u>	<u>49,554</u>	<u>54,487</u>
3. Unfunded Actuarial Accrued Liability (AAL - AVA)	(4,710)	(8,920)	(13,630)	(4,712)	(10,930)	(15,642)	(4,710)	(11,552)	(16,262)
4. Funded Ratio (AVA / AAL)	2,212.1%	122.0%	133.4%	2,232.1%	128.3%	140.3%	2,212.1%	130.4%	142.5%
5. Normal Cost	312	3,396	3,708	296	2,929	3,225	295	2,882	3,177
6. Projected DCR Payroll for Upcoming Year			391,854			392,915			393,852
7. Contribution Rate as of 6/30/20*									
7a. Normal Cost Rate	0.08%	0.87%	0.95%	0.08%	0.75%	0.83%	0.07%	0.73%	0.80%
7b. Unfunded Liability Amortization Rate	<u>(0.10%)</u>	<u>(0.14%)</u>	<u>(0.24%)</u>	<u>(0.09%)</u>	<u>(0.17%)</u>	<u>(0.26%)</u>	<u>(0.09%)</u>	<u>(0.18%)</u>	<u>(0.27%)</u>
7c. Total Rate (not less than Employer Normal Cost)	0.08%	0.87%	0.95%	0.08%	0.75%	0.83%	0.07%	0.73%	0.80%

* % of projected DCR payroll for the upcoming year

Cost Effects of Proposed Assumptions (cont'd)

JRS

as of June 30, 2020 (\$000's)	Current			Proposed #1			Proposed #2		
	Pension	Healthcare	Total	Pension	Healthcare	Total	Pension	Healthcare	Total
1. Actuarial Accrued Liability (AAL)	211,742	16,764	228,506	199,869	16,398	216,267	198,713	16,211	214,924
2. Actuarial Value of Assets (AVA)	<u>194,788</u>	<u>34,806</u>	<u>229,594</u>	<u>194,788</u>	<u>34,806</u>	<u>229,594</u>	<u>194,788</u>	<u>34,806</u>	<u>229,594</u>
3. Unfunded Actuarial Accrued Liability (AAL - AVA)	16,954	(18,042)	(1,088)	5,081	(18,408)	(13,327)	3,925	(18,595)	(14,670)
4. Funded Ratio (AVA / AAL)	92.0%	207.6%	100.5%	97.5%	212.3%	106.2%	98.0%	214.7%	106.8%
5. Normal Cost (Total)	5,934	854	6,788	5,404	834	6,238	5,376	819	6,195
6. Projected Payroll for Upcoming Year			13,157			13,157			13,157
7. Contribution Rate as of 6/30/20*									
7a. Normal Cost Rate (Employer)	38.85%	6.49%	45.34%	34.82%	6.34%	41.16%	34.61%	6.22%	40.83%
7b. Unfunded Liability Amortization Rate	<u>24.74%</u>	<u>(8.24%)</u>	<u>24.74%</u>	<u>18.93%</u>	<u>(8.32%)</u>	<u>18.93%</u>	<u>18.37%</u>	<u>(8.41%)</u>	<u>18.37%</u>
7c. Total Rate (not less than Employer Normal Cost)	63.59%	6.49%	70.08%	53.75%	6.34%	60.09%	52.98%	6.22%	59.20%

* % of projected payroll for the upcoming year

Cost Effects of Proposed Assumptions (cont'd)

NGNMRS

as of June 30, 2020 (\$000's)	Current	Proposed #1	Proposed #2
1. Actuarial Accrued Liability (AAL)	22,417	25,842	25,842
2. Actuarial Value of Assets (AVA)	<u>43,020</u>	<u>43,020</u>	<u>43,020</u>
3. Unfunded Actuarial Accrued Liability (AAL - AVA)	(20,603)	(17,178)	(17,178)
4. Funded Ratio (AVA / AAL)	191.9%	166.5%	166.5%
5. Normal Cost	503	722	722
6. Contribution as of 6/30/20			
6a. Normal Cost and Administrative Expenses	759	978	978
6b. Unfunded Liability Amortization	<u>(3,325)</u>	<u>(2,590)</u>	<u>(2,590)</u>
6c. Total (not less than zero)	0	0	0

Actuarial Certification

Actuarial Certification

The purpose of this presentation is to provide the ARMB with information to supplement the experience study assumptions discussion from the March 2022 meeting. Use of this presentation, for any other purpose or by anyone other than the ARMB or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the presentation for that purpose. Because of the risk of misinterpretation of results, you should ask Buck to review any statement you wish to make on the results contained in this presentation. Buck will not accept any liability for any such statement made without the review by Buck.

The cost effects of the proposed assumptions are based on the June 30, 2020 valuations, and are meant to show the estimated impact of the assumption changes. They are not to be used for determining actual funding contributions.

Please see the draft June 30, 2021 actuarial valuation reports for a detailed description of risk factors related to future funding of the plans (ASOP 51) and the models used in our analysis (ASOP 56).

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law.

The results were prepared under the direction of David Kershner and Scott Young, both of whom meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. These results have been prepared in accordance with all applicable Actuarial Standards of Practice.

David Kershner
FSA, EA, MAAA, FCA
Principal, Retirement

Scott Young
FSA, EA, MAAA, FCA
Director, Health



Division of Retirement & Benefits

Legislative Update – May 4, 2022

Bills	Sponsor	Referrals	Summary	Status
Pension Plans				
HB 55, CSHB 55	REPRESENTATIVE JOSEPHSON	(H) STA, FIN (S) L&C, FIN	This bill would open a new PERS Defined Benefits tier allowing current police/firefighters to elect the new tier or remain in the PERS DCR. Make necessary changes relating to the eligibility of peace officers and firefighters for DCR medical, changes to employee contribution as set by the ARMB, and changes to the PRPA program based on the funding of the PERS system.	(S) L&C Next committee of referral is S(Fin)
HB 281	HOUSE RULES BY REQUEST OF THE GOVERNOR	(H) FIN (S) FIN	This legislation is the FY2023 budget bill making appropriations for the operating and loan program expenses of state government and for certain programs; capitalizing funds; amending appropriations; making capital appropriations, supplemental appropriations, and reappropriations; and providing for an effective date.	(S) FIN
HB 220	REPRESENTATIVE HOPKINS	(H) L&C, FIN	This legislation provides PERS and TRS employees a choice of choosing between the defined benefits and defined contributions plans.	Passed out of (H) FIN; Await next committee
HB 248	REPRESENTATIVE SHAW	(H) STA, FIN	This legislation allows a retired Peace Office to return to work while maintaining access to their pension benefit. They would not be able to accrue additional service or an increase to their retirement benefit but would have access to employee health insurance.	Referred to (H) STA
SB 6	SENATOR KAWASAKI	(S) EDC, L&C, FIN	This bill offers a temporary retirement incentive program to the defined benefits members of PERS and TRS. It allows qualified members to retire three years early.	(S) FIN
SB 37	SENATOR KIEHL	(S) L&C, FIN	This legislation provides restoration of tenure for certain disabled individuals and certain PERS/TRS employees an opportunity to choose between the defined benefit and	(S) L&C

Bill	Sponsor	Referrals	Summary	Status
			defined contribution plans of the Alaska Public Employees' Retirement and the Teachers' Retirement systems.	
SB 162	SENATE RULES BY REQUEST OF THE GOVERNOR	(S) FIN	This legislation is the FY2023 budget bill making appropriations for the operating and loan program expenses of state government and for certain programs; capitalizing funds; amending appropriations; making capital appropriations, supplemental appropriations, and reappropriations; and providing for an effective date.	(S) FIN
SRJ 12	SENATOR WIELECHOWSKI	(S) STA, FIN (H) STA	This resolution urges the United States Congress to repeal the Windfall Elimination Provision and Government Pension Offset of the Social Security Act.	(H) RLS
Bills	Sponsor	Referrals	Summary	Status
Health Plans				
HB 58	Representative Claman	(H) HSS, L&C	This legislation mandates specific coverage of contraceptives by health insurers in Alaska and the AlaskaCare employee health plan.	(H) RLS
HB 113	House Rules by Request of the Governor	(H) L&C, HSS, FIN	This legislation aims to reduce the cost of health care and improve care quality by addressing the lack of transparent data that is a hallmark of the health care industry today. This bill creates an All-Payer Claims Database (APCD) housed within the Division of Insurance. The APCD could be used to analyze health care cost, quality, and utilization data to aid in advising and making recommendations to policymakers and consumers on health care programs and policies. **Companion bill to SB 93	(H) L&C
SB 30	Senator Begich	(S) HSS, L&C, FIN	This legislation requires the AlaskaCare health plans to provide coverage for colorectal cancer screenings.	Withdrawn by Sponsor
SB 41	Senator Hughes	(S) L&C, FIN	This legislation requires health care providers and insurers to publicly disclose network pricing agreements. It further requires commercial insurers to establish a cash incentive program to encourage commercially insured individuals to obtain care from lower-cost network providers. The bill	(S) L&C

Bill	Sponsor	Referrals	Summary	Status
			<p>does not apply these requirements to the AlaskaCare health plans but directs the Division of Retirement and Benefits to conduct an analysis to evaluate whether the state or employees covered by AlaskaCare health plans would benefit if required to comply with the provisions outlined in the bill.</p>	
SB 93	Senate Rules by Request of the Governor	(S) HSS, L&C, FIN	<p>This legislation aims to reduce the cost of health care and improve care quality by addressing the lack of transparent data that is a hallmark of the health care industry today. This bill creates an All-Payer Claims Database (APCD) housed within the Division of Insurance. The APCD could be used to analyze health care cost, quality, and utilization data to aid in advising and making recommendations to policymakers and consumers on health care programs and policies.</p> <p>**Companion bill to HB 113</p>	(S) FIN